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                 CA/CAplus records now contain indexing from 1907 to the
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         AUG 05
                 New pricing for EUROPATFULL and PCTFULL effective
                 August 1, 2003
                 Field Availability (/FA) field enhanced in BEILSTEIN
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                 Data available for download as a PDF in RDISCLOSURE
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         AUG 18
                 Simultaneous left and right truncation added to PASCAL
NEWS
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                 FROSTI and KOSMET enhanced with Simultaneous Left and Righ
                 Truncation
                 Simultaneous left and right truncation added to ANABSTR
NEWS 9
         AUG 18
         SEP 22
                 DIPPR file reloaded
NEWS 10
NEWS 11
         DEC 08
                 INPADOC: Legal Status data reloaded
NEWS 12
         SEP 29
                 DISSABS now available on STN
NEWS 13 OCT 10 PCTFULL: Two new display fields added
NEWS 14 OCT 21 BIOSIS file reloaded and enhanced
NEWS 15 OCT 28 BIOSIS file segment of TOXCENTER reloaded and enhanced
NEWS 16 NOV 24 MSDS-CCOHS file reloaded
NEWS 17 DEC 08
                 CABA reloaded with left truncation
NEWS 18 DEC 08 IMS file names changed
        DEC 09
                 Experimental property data collected by CAS now available
NEWS 19
                 in REGISTRY
        DEC 09
                 STN Entry Date available for display in REGISTRY and CA/CAplus
NEWS 20
NEWS EXPRESS NOVEMBER 14 CURRENT WINDOWS VERSION IS V6.01c, CURRENT
              MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
              AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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              Welcome Banner and News Items
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              CAS World Wide Web Site (general information)
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=> file medline, agricola, caba, caplus, biosis, biotechno, uspatfull COST IN U.S. DOLLARS SINCE FILE TOTAL

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=> s (schroeder, j? or schroeder j?)/au 4908 (SCHROEDER, J? OR SCHROEDER J?)/AU

=> s (pei, z? or pei z?)/au 549 (PEI, Z? OR PEI Z?)/AU

=> s 11 and 12

L<sub>3</sub> 63 L1 AND L2

=> s l1 or l2

5394 L1 OR L2

=> s farnesyltransferase 3582 FARNESYLTRANSFERASE

=> s 13 and 15

6 L3 AND L5 L6

=> duplicate remove 16 DUPLICATE PREFERENCE IS 'MEDLINE, AGRICOLA, CABA, CAPLUS, BIOSIS' KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n PROCESSING COMPLETED FOR L6 L7 2 DUPLICATE REMOVE L6 (4 DUPLICATES REMOVED)

=> d 17 1-2 bib

ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN L7

2000:227745 CAPLUS ΑN

DN 132:248644

Inhibition of farnesyltransferase activity in plants and TТ transgenic plants producing farnesyltransferase inhibitors

IN Schroeder, Julian I.; Pei, Zhen-Ming

PA The Regents of the University of California, USA

SO PCT Int. Appl., 41 pp. CODEN: PIXXD2

DT Patent

LΑ English

FAN.CNT 1

PΙ

APPLICATION NO. DATE PATENT NO. KIND DATE -----WO 2000018880 A2 20000406 WO 1999-US22510 19990929

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     WO 2000018880
                       Α3
             AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
             CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
             IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,
             MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
             SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
             DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
             CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                          AU 1999-61664
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                            20000417
     AU 9961664
PRAI US 1998-102569P
                       Ρ
                            19980930
     WO 1999-US22510
                       W
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                                                         DUPLICATE 1
     ANSWER 2 OF 2
                       MEDLINE on STN
L7
                    MEDLINE
     1998438697
ΑN
              PubMed ID: 9765153
DN
     98438697
     Role of farnesyltransferase in ABA regulation of guard cell
TI
     anion channels and plant water loss.
CM
     Comment in: Science. 1998 Oct 9;282(5387):252-3
     Pei Z M; Ghassemian M; Kwak C M; McCourt P; Schroeder J
ΆU
     Department of Biology and Center for Molecular Genetics, University of
CS
     California, San Diego, La Jolla, CA 92093-0116, USA.
     SCIENCE, (1998 Oct 9) 282 (5387) 287-90.
SO
     Journal code: 0404511. ISSN: 0036-8075.
CY
     United States
     Journal; Article; (JOURNAL ARTICLE)
DT
     English
LA
     Priority Journals; Space Life Sciences
FS
EM
     199810
ED
     Entered STN: 19990106
     Last Updated on STN: 20030128
     Entered Medline: 19981026
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     ENTERED AT 13:20:45 ON 17 DEC 2003
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T<sub>1</sub>1
L2
            549 S (PEI, Z? OR PEI Z?)/AU
L3
             63 S L1 AND L2
           5394 S L1 OR L2
L4
           3582 S FARNESYLTRANSFERASE
L5
L6
              6 S L3 AND L5
              2 DUPLICATE REMOVE L6 (4 DUPLICATES REMOVED)
L7
=> s 14 not 13
         5331 L4 NOT L3
L8
=> s 18and 15
MISSING OPERATOR L8AND L5
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
=> s 18 and 15
             7 L8 AND L5
L9
=> duplicate remove 19
DUPLICATE PREFERENCE IS 'MEDLINE, AGRICOLA, CABA, CAPLUS, BIOSIS, USPATFULL'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L9
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=> d l10 1-3 bib

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T.10
     ANSWER 1 OF 3 USPATFULL on STN
AN
       2002:345481 USPATFULL
       Modulation of abscisic acid signal transduction in plants
тT
       Schroeder, Julian, La Jolla, CA, UNITED STATES
IN
       Huguovieux, Veronique, La Jolla, CA, UNITED STATES
       Kwak, June M., San Diego, CA, UNITED STATES
       The Regents of the University of California, Oakland, CA, UNITED STATES,
PA
       94607-5200 (U.S. corporation)
                                20021226
PΤ
       US 2002199219
                          A1
ΑI
       US 2001-882986
                          A1
                                20010614 (9)
       US 2000-212068P
                           20000614 (60)
PRAI
       Utility
DТ
       APPLICATION
FS
LREP
       TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH
       FLOOR, SAN FRANCISCO, CA, 94111-3834
CLMN
       Number of Claims: 27
ECL
       Exemplary Claim: 1
DRWN
       No Drawings
LN.CNT 1352
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 2 OF 3
                       MEDLINE on STN
                                                         DUPLICATE 1
T<sub>1</sub>10
                    MEDLINE
AΝ
     2002374012
                PubMed ID: 12119381
DN
     22115185
     Hypersensitivity of abscisic acid-induced cytosolic calcium increases in
ΤI
     the Arabidopsis farnesyltransferase mutant eral-2.
ΑU
     Allen Gethyn J; Murata Yoshiyuki; Chu Sarah P; Nafisi Majse;
     Schroeder Julian I
     Cell and Developmental Biology Section, Division of Biology and Center for
CS
     Molecular Genetics, University of California, San Diego, La Jolla,
     California 92093-0116, USA.
NC
     1P42ES10337 (NIEHS)
     GM60396 (NIGMS)
     PLANT CELL, (2002 Jul) 14 (7) 1649-62.
SO
     Journal code: 9208688. ISSN: 1040-4651.
CY
     United States
DT
     Journal; Article; (JOURNAL ARTICLE)
LA
     English
     Priority Journals
FS
EΜ
     200210
ED
     Entered STN: 20020717
     Last Updated on STN: 20030128
     Entered Medline: 20021028
     ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
L10
     1996:256962 BIOSIS
ΑN
DN
     PREV199698813091
TI
     Stable expression of a 5' 400 bp anti-sense of the beta subunit of
     farnesyltransferase in human lung carcinoma blocks oncogenic
     signaling in vitro and in vivo.
ΔIJ
     Sun, J.; Pei, Z.; Sebti, S. M.
     Univ. Pittsburgh, Pittsburgh, PA 15261, USA
CS
     Proceedings of the American Association for Cancer Research Annual
SO
     Meeting, (1996) Vol. 37, No. 0, pp. 419.
     Meeting Info.: 87th Annual Meeting of the American Association for Cancer
     Research. Washington, D.C., USA. April 20-24, 1996.
     ISSN: 0197-016X.
     Conference; (Meeting)
     Conference; Abstract; (Meeting Abstract)
     Conference; (Meeting Poster)
LA
     English
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ED Entered STN: 31 May 1996 Last Updated on STN: 11 Jul 1996 => d his (FILE 'HOME' ENTERED AT 13:19:35 ON 17 DEC 2003) FILE 'MEDLINE, AGRICOLA, CABA, CAPLUS, BIOSIS, BIOTECHNO, USPATFULL' ENTERED AT 13:20:45 ON 17 DEC 2003 . 4908 S (SCHROEDER, J? OR SCHROEDER J?)/AU L1 549 S (PEI, Z? OR PEI Z?)/AU L2 63 S L1 AND L2 L3 5394 S L1 OR L2 L43582 S FARNESYLTRANSFERASE L5 6 S L3 AND L5 L6 2 DUPLICATE REMOVE L6 (4 DUPLICATES REMOVED) L7 L8 ' 5331 S L4 NOT L3 L9 7 S L8 AND L5 L10 3 DUPLICATE REMOVE L9 (4 DUPLICATES REMOVED) => s 15 and plant 186 L5 AND PLANT L11 => s 111 not 14 L12 175 L11 NOT L4 => s 112 and (inhibitor or inhibition) 109 L12 AND (INHIBITOR OR INHIBITION) => s 113 and (transformed or transgenic) 70 L13 AND (TRANSFORMED OR TRANSGENIC) => duplicate remove 114 DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, BIOTECHNO, USPATFULL' KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n PROCESSING COMPLETED FOR L14 66 DUPLICATE REMOVE L14 (4 DUPLICATES REMOVED) L15=> d l15 1-10 ti ANSWER 1 OF 66 USPATFULL on STN Methods for generating, selecting, and identifying compounds which bind a target molecule L15 ANSWER 2 OF 66 USPATFULL on STN ΤI Method of identifying conformation-sensitive binding peptides and uses thereof L15 ANSWER 3 OF 66 USPATFULL on STN ΤI Dehydroascorbate reductase ("DHAR") genes and their uses L15 ANSWER 4 OF 66 USPATFULL on STN ΤI Transgenic plants with enhanced stress tolerance L15 ANSWER 5 OF 66 USPATFULL on STN CaaX prenyl protease nucleic acids and polypeptides and methods of use TT L15 ANSWER 6 OF 66 USPATFULL on STN Yeast cells engineered to produce pheromone system protein surrogates ΤI and uses therefor

L15 ANSWER 7 OF 66 USPATFULL on STN Nck SH3 binding peptides

TI

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L15 ANSWER 8 OF 66 USPATFULL on STN
       Method for inhibition of viral infection
ΤI
L15
    ANSWER 9 OF 66 USPATFULL on STN
       Method of modifying plant characters by the targeted
ΤI
       expression of a cell cycle control protein
    ANSWER 10 OF 66 USPATFULL on STN
L15
       Methods and compositions for diagnosing and treating rheumatoid
TI
       arthritis
=> s farnesyltransferase(w)inhibitor OR farnesyltransferase(s)inhibition
          1630 FARNESYLTRANSFERASE(W) INHIBITOR OR FARNESYLTRANSFERASE(S) INHIB
               ITION
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     FILE 'MEDLINE, AGRICOLA, CABA, CAPLUS, BIOSIS, BIOTECHNO, USPATFULL'
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           4908 S (SCHROEDER, J? OR SCHROEDER J?)/AU
L1
            549 S (PEI, Z? OR PEI Z?)/AU
L2
             63 S L1 AND L2
L3
           5394 S L1 OR L2
L4
           3582 S FARNESYLTRANSFERASE
L5
              6 S L3 AND L5
1.6
L7
              2 DUPLICATE REMOVE L6 (4 DUPLICATES REMOVED)
L8
           5331 S L4 NOT L3
              7 S L8 AND L5
L9
              3 DUPLICATE REMOVE L9 (4 DUPLICATES REMOVED)
L10
           186 S L5 AND PLANT
L11
           175 S L11 NOT L4
L12
           109 S L12 AND (INHIBITOR OR INHIBITION)
L13
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L14
            66 DUPLICATE REMOVE L14 (4 DUPLICATES REMOVED)
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           1630 S FARNESYLTRANSFERASE (W) INHIBITOR OR FARNESYLTRANSFERASE (S) INHI
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L17.
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KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L17
             26 DUPLICATE REMOVE L17 (4 DUPLICATES REMOVED)
L18
=> d l18 1-10 ti
    ANSWER 1 OF 26 USPATFULL on STN
L18
       Yeast cells engineered to produce pheromone system protein surrogates
TT
       and uses therefor
L18 ANSWER 2 OF 26 USPATFULL on STN
       Method for inhibition of viral infection
TI
    ANSWER 3 OF 26 USPATFULL on STN
L18
       Yeast cells engineered to produce pheromone system protein surrogates,
TI
       and uses therefor
L18
   ANSWER 4 OF 26 USPATFULL on STN
TI
       Inhibitors of protein isoprenyl transferases
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- L18 ANSWER 5 OF 26 USPATFULL on STN
- TI Bax degradation involvement in tumor survival and progression
- L18 ANSWER 6 OF 26 USPATFULL on STN
- TI Farnesyl-protein transferase inhibitors
- L18 ANSWER 7 OF 26 USPATFULL on STN
- TI Human RCE1
- L18 ANSWER 8 OF 26 USPATFULL on STN
- TI Inhibitors of protein isoprenyl transferases
- L18 ANSWER 9 OF 26 USPATFULL on STN
- TI Inhibitors of protein isoprenyl transferases
- L18 ANSWER 10 OF 26 USPATFULL on STN
- TI Farnesyl-protein transferase inhibitors
- => d l18 2 kwic
- L18 ANSWER 2 OF 26 USPATFULL on STN
- TI Method for inhibition of viral infection
- AB The invention is directed to inhibiting viral morphogenesis and viral infection. In particular, it concerns effecting such **inhibition** by inhibiting the prenylation or post prenylation reactions of a viral or host protein.
- SUMM [0003] The invention is directed to inhibiting viral morphogenesis and viral infection. In particular, it concerns effecting such inhibition by inhibiting the prenylation or post prenylation reactions of a viral or host protein.
- SUMM . . . of hepatitis A virus (HAV), hepatitis C virus (HCV), herpes simplex virus (HSV), cytomegalovirus (CMV), varicella-zoster virus (VZV), influenza virus, plant viruses such as tobacco mosaic satellite virus (TMSV) and barley stripe mosaic virus (BSMV), the core antigen of hepatitis B. . . to play an important role in the development of AIDS. (Kesstler, H. W. III, et al. Cell (1991) 65:651-662. Accordingly, inhibition of the prenylation of these target proteins or the post-prenylation reactions thereof is claimed to be inhibitory to the progress. . .
- SUMM . . . cells to halt the viral infection. Such cells may be in culture or may be contained in an animal or **plant** subject.
- SUMM "XXCX" (SEQ ID NO: 4), or "XXXC" (SEQ ID NO: 5) box as it occurs in said viral protein, an inhibitor of a prenyl transferase, an inhibitor of an enzyme included in the pathway of a prenyl lipid synthesis from mevalonate, a mimic of a prenyl group, an inhibitor of a protease that removes the XXX tripeptide from the CXXX polypeptide following prenylation, a protease that removes following prenylation, or a protease that removes a C-terminal domain of the prenylated protein including the entire CXXX box, an inhibitor of prenyl cysteine methyltransferase, and a combination thereof. Exemplary combination includes a combination of lovastatin, an inhibitor of an enzyme included in the pathway of a prenyl lipid synthesis from mevalonate, and 3-allylfarnesol, an inhibitor of protein farnesyltransferase (Mattingly et al., J. Pharmacol. Exp. Ther., 303(1):74-81 (2002)). Preferably, the agent is administered with a pharmaceutically acceptable carrier or.
- SUMM [0013] In a specific embodiment, the agent is an **inhibitor** of an enzyme along the pathway of prenyl lipid synthesis from mevalonate i.e., one of the enzymes involved in the. . .
- SUMM . . . donor in a functional prenylation reaction. In one aspect, "a mimic of a prenyl group" can behave as a competitive inhibitor of a prenyl group donor in a prenylation reaction. Such a competitive inhibitor is disclosed in Pompliano et al., Biochemistry,

```
31:3800-3807 (1992). Pompliano et al. showed that two nonhydrolyzable
       analogues of farnesyl diphosphate, . .
               However, it should be noted that the above description of a
SUMM
      mimic of a prenyl group behaving as a competitive inhibitor in
       a prenylation reaction is for illustration only. The meaning of the
       mimic of a prenyl group should not be limited to such competitive
       inhibitor because the mimic may block the normal prenylation
       through other mechanism(s). For example, a prenyl group may be modified
              Biochem. Biophys. Res. Commun., 232(2):478-81 (1997)),
SUMM
       2-diazo-3,3,3-trifluoropropionyloxy-farnesyl diphosphate (DATFP-FPP)
       (Bukhtiyarov et al., J. Biol. Chem., 270(32):19035-40 (1995)),
       1-phosphono-(E,E,E)-geranylgeraniol, a dead-end inhibitor for
       GGPP (Stirtan and Poulter, Biochemistry, 36(15):4552-7 (1997)),
       Cbz-His-Tyr-Ser(OBn)TrpNH2 and Cbz-HisTyr (OP042-)-Ser(OBn)TrpNH2
       (Scholten et al., J. Biol. Chem., 272(29):18077-81 (1997)).
       [0017] In still another specific embodiment, the agent is an
SUMM
       inhibitor of a protease that removes the XXX tripeptide from the
       CXXX polypeptide following prenylation, a protease that removes the XX.
       [0018] In yet another specific embodiment, the agent is an
SUMM
       inhibitor of prenyl cysteine methyltransferase. Any suitable
       inhibitors of prenyl cysteine methyltransferase can be used in the
       present methods. For example,.
SUMM
       [0019] The present methods can be used to treat a viral infection in any
       suitable subject. Exemplary subjects include animal, plant,
       fungus and bacterium subjects. In a specific embodiment, the subject to
       be treated is an animal or a plant. Preferably, the animal is
       a mammal, e.g., a human or a non-human primate.
SUMM
               "XXCX" (SEQ ID NO: 4), or "XXXC" (SEQ ID NO: 5) box as it
      occurs in said viral protein, an inhibitor of a prenyl
       transferase, an inhibitor of an enzyme included in the pathway
       of a prenyl lipid synthesis from mevalonate, a mimic of a prenyl group,
       an inhibitor of a protease that removes the XXX tripeptide
       from the CXXX polypeptide following prenylation, a protease that removes
       the XX. . . XCXX polypeptide following prenylation, or a protease
       that removes the X residue from the XXCX polypeptide following
       prenylation, and an inhibitor of prenyl cysteine
       methyltransferase; and b) an instruction for using said agent in
       treating said viral infection in said subject.
SUMM
                "XXCX" (SEQ ID NO: 4), or "XXXC" (SEQ ID NO: 5) box as it
      occurs in said viral protein, an inhibitor of a prenyl
       transferase, an inhibitor of an enzyme included in the pathway
       of a prenyl lipid synthesis from mevalonate, a mimic of a prenyl group,
       an inhibitor of a protease that removes the XXX tripeptide
       from the CXXX polypeptide following prenylation, a protease that removes
                  . XCXX polypeptide following prenylation, or a protease
       that removes the X residue from the XXCX polypeptide following
      prenylation, and an inhibitor of prenyl cysteine
      methyltransferase. Exemplary viral life cycle events include viral
       morphogenesis (which may include formation or assembly of the.
       [0031] FIGS. 9A-D illustrate in vivo treatment of hepatitis delta virus
DRWD
       (HDV) with the prenylation inhibitors FTI-277 and FTI-2153. HBV-
       transgenic mice were inoculated by hydrodynamic transfection to
       initiate authentic HDV genome replication. Mice were treated for one
       week by IP.
       [0039] As used herein, "plant" refers to any of various
DETD
      photosynthetic, eucaryotic multi-cellular organisms of the kingdom
      Plantae, characteristically producing embryos, containing chloroplasts,
      having cellulose.
               different effects on genome replication. The small form is
DETD
      required for replication, whereas the large form is a potent
      trans-dominant inhibitor (10, 11).
            . nature of the COOH-terminal amino acid; Pro (P), which enhances
DETD
```

genome replication (20), is replaced by Gln (Q), resulting in

inhibition of genome replication. The second effect is the creation of a target prenylation site (CRPQ), C, cysteine; R, arginine; Thus, the first effect is the conversion of an enhancer of DETD genome replication (small delta antigen) into a potent trans-dominant inhibitor (large delta antigen) (10, 11). This dramatic difference in function appears to be determined solely by the nature of the. DETD including drugs that inhibit enzymes along the prenylation pathway, and CXXX box analogs. Both therapies have been considered for the inhibition of ras-mediated oncogenic transformation (24). Tetrapeptides that correspond to the CXXX box of p21 Ha-Ras inhibit prenylation of p21 Ha-Ras. . . L genomes require a source of small delta antigen for replication (19, 27) but, once replicated, produce a potent trans-dominant inhibitor of further replication, a therapeutically administered L genome DIP could be specific for infected cells, as well as possess an. DETD [0074] Accordingly, new approaches to antiviral therapy and inhibition of viral morphogenesis focus on inhibition of the prenylation of, or post-prenylation reactions of, at least one viral protein. This may be effected by contacting cells. surroundings of the cysteine residue to be prenylated. For example, Reiss, Y., et al. Cell (1990) 62:81-88 report prenylation inhibition by C-A-A-X (SEQ ID NO: 7) tetrapeptides. As set forth above, the cysteine residue to be prenylated is generally found. [0078] The foregoing assay, of course, requires that the DETD inhibitor interfere with the prenylation system for large delta antigen or for any other prenylation-controlled secreted protein used in the assay.. . . . identified by one of the variations of the above described DETD assay are expected to find use not only in the inhibition of viruses, but also in other processes or disease states -- including but not limited to cancer -- in which a prenylated protein is. . . C-terminus. An illustrative list of such proteins includes, for DETD example, specific proteins of HAV, HCV, HSV, CMV, VZV, influenza virus, plant viruses such as tobacco mosaic satellite virus and barley stripe mosaic virus, core antigen of hepatitis B virus and the. . . such as a mammalian subject or in particular a human or other DETD primate subject, the agent used for the prenylation inhibition is generally introduced as a pharmaceutical formulation. Suitable formulations depending on the nature of the agent chosen may be found. also be used as active ingredients. For administration to plants, formulations which are capable of conducting the active ingredients into plant cells are used as carriers. [0097] The following experiments demonstrate that inhibition DETD of prenylation of viral proteins in vivo and/or in vitro can inhibit or retard reproduction of three representative viruses: hepatitis. [0110] Inhibition of HDV Virion Production DETD DETD [0111] In Vitro Inhibition [0112] Experiments were conducted to demonstrate that FTI-277, a DETD prenylation inhibitor, can effectively inhibit the production of HDV virions at a concentration that does not significantly affect general protein synthesis and. [0115] FTI-277, a prenylation inhibitor, was tested for its DETD ability to inhibit HDV virion production. As shown in FIG. 7, while in the absence of. [0116] Taken together, the above results demonstrate that DETD pharmacological inhibition of prenylation can interfere with virus particle production. Furthermore, compounds like FTI-277, which

treated for one week by IP. . . DETD . . . the above results demonstrate that the prenylation inhibitors

transfection to initiate authentic HDV genome replication. Mice were

[0119] HBV-transgenic mice were inoculated by hydrodynamic

inhibit prenylation, represent a novel class of.

[0117] In Vivo Inhibition

DETD

DETD

FTI-277 and FTI-2153 can effectively inhibit HDV virion production in vivo. This **inhibition** is not associated with, and cannot be explained by, non-specific toxicity in the testing animals.
[0122] **Inhibition** of Vaccinia Virus Production

DETD DETD

. . . 37.degree. C. in CV-1 medium containing vehicle (DMSO) alone, or vehicle plus an equimolar 10 micromolar mixture of FTI-2153 (a farnesyltransferase inhibitor) and GGTI-2166 (a geranylgeranyltransferase inhibitor) (Sun et al., Cancer Res., 59(19):4919-26 (1999)). On day 2, the cells were fixed with crystal violet to permit detection. . .

DETD

. . recently found that specific mutation of the COOH-terminal Gln of large delta antigen to Pro converted the protein from an **inhibitor** to an enhancer of genome replication (20). What is claimed is:

CLM

- "XXCX" (SEQ ID NO: 4), or "XXXC" (SEQ ID NO: 5) box as it occurs in said viral protein, an inhibitor of a prenyl transferase, an inhibitor of an enzyme included in the pathway of a prenyl lipid synthesis from mevalonate, a mimic of a prenyl group, an inhibitor of a protease that removes the XXX tripeptide from the CXXX polypeptide following prenylation, a protease that removes the XX. . following prenylation, or a protease that removes a C-terminal domain of the prenylated protein including the entire CXXX box, an inhibitor of prenyl cysteine methyltransferase, and a combination thereof.
- 2. The method of claim 1, wherein said agent is an **inhibitor** of an enzyme along the pathway of prenyl lipid synthesis from mevalonate.
- 4. The method of claim 1, wherein said agent is an **inhibitor** of a protease that removes the XXX tripeptide from the CXXX polypeptide following prenylation, a protease that removes the XX. . . 5. The method of claim 1, wherein said agent is an **inhibitor** of prenyl cysteine methyltransferase.
- 6. The method of claim 1, wherein said subject is an animal or a plant.
- 19. A kit to treat a viral infection in a subject via inhibiting the prenylation or a post-prenylation reaction of. . . "XXCX" (SEQ ID NO: 4), or "XXXC" (SEQ ID NO: 5) box as it occurs in said viral protein, inhibitor of a prenyl transferase, an inhibitor of an enzyme included in the pathway of a prenyl lipid synthesis from mevalonate, a mimic of a prenyl group, an inhibitor of a protease that removes the XXX tripeptide from the CXXX polypeptide following prenylation, a protease that removes the XX. . . following prenylation, or a protease that removes a C-terminal domain of the prenylated protein including the entire CXXX box, an inhibitor of prenyl cysteine methyltransferase, and a combination thereof; and b) an instruction for using said agent in treating said viral. "XXCX" (SEQ ID NO: 4), or "XXXC" (SEQ ID NO: 5) box as it occurs in said viral protein, an inhibitor of a prenyl transferase, an inhibitor of an enzyme included in the pathway of a prenyl lipid synthesis from mevalonate, a mimic of a prenyl group, an inhibitor of a protease that removes the XXX tripeptide from the CXXX polypeptide following prenylation, a protease that removes the XX. following prenylation, or a protease that removes a C-terminal domain of the prenylated protein including the entire CXXX box, inhibitor of prenyl cysteine methyltransferase, and a combination thereof.

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L3
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           5394 S L1 OR L2
L4
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L5
              6 S L3 AND L5
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L7
           5331 S L4 NOT L3
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              3 DUPLICATE REMOVE L9 (4 DUPLICATES REMOVED)
L10
L11
            186 S L5 AND PLANT
            175 S L11 NOT L4
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            109 S L12 AND (INHIBITOR OR INHIBITION)
L13
             70 S L13 AND (TRANSFORMED OR TRANSGENIC)
L14
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T.17
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             0 L18 AND GUARD(S) CELL
L19
=> d l18 4,5,6,10 bib
L18 ANSWER 4 OF 26 USPATFULL on STN
AN
       2002:338225 USPATFULL
ΤI
       Inhibitors of protein isoprenyl transferases
IN
       Sebti, Said M., Tampa, FL, UNITED STATES
       Hamilton, Andrew D., Guilford, CT, UNITED STATES
       Augeri, David J., Kenosha, WI, UNITED STATES
       Barr, Kenneth J., Chicago, IL, UNITED STATES
       Donner, Greg B., Mundelein, IL, UNITED STATES
       Fakhoury, Stephen A., Mundelein, IL, UNITED STATES
       O'Connor, Stephen J., Wilmette, IL, UNITED STATES
       Rosenberg, Saul H., Grayslake, IL, UNITED STATES
       Shen, Wang, Gurnee, IL, UNITED STATES
       Szczepankiewicz, Bruce G., Lindenhurst, IL, UNITED STATES
       Gunawardana, Indrani W., Libertyville, IL, UNITED STATES
       University of Pittsburgh, Pittsburgh, PA, UNITED STATES (U.S.
PA
       corporation)
PΙ
       US 2002193596
                          A1
                               20021219
ΑI
       US 2001-984411
                          A1
                               20011030 (9)
       Continuation-in-part of Ser. No. US 1997-852858, filed on 7 May 1997,
RLI
       ABANDONED Continuation-in-part of Ser. No. US 1996-740909, filed on 5
       Nov 1996, ABANDONED
PRAI
       US 1995-7247P
                           19951106 (60)
       Utility
DT
FS
       APPLICATION
LREP
       Pillsbury Winthrop LLP, Intellectual Property Group, 1600 Tysons
       Boulevard, McLean, VA, 22102
CLMN
       Number of Claims: 14
ECL
       Exemplary Claim: 1
DRWN
       No Drawings
LN.CNT 16873
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 5 OF 26 USPATFULL on STN
L18
       2002:191556 USPATFULL
AN
TI
       Bax degradation involvement in tumor survival and progression
IN
       Dou, Ping, Tampa, FL, UNITED STATES
       Li, Benyi, Houston, TX, UNITED STATES
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A1
                               20020801
       US 2002102621
PΙ
                          A1
                               20010305 (9)
       US 2001-799253
AΤ
       US 2000-186895P
                           20000303 (60)
PRAI
       Utility
DT
       APPLICATION
FS
       Amy E. Rinaldo, Kohn & Associates, Suite 410, 30500 Northwestern Hwy.,
LREP
       Farmington Hills, MI, 48334
       Number of Claims: 10
CLMN
       Exemplary Claim: 1
ECL
DRWN
       5 Drawing Page(s)
LN.CNT 1659
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
    ANSWER 6 OF 26 USPATFULL on STN
L18
       2002:194883 USPATFULL
AN
       Farnesyl-protein transferase inhibitors
ΤI
       Shaikenov, Tattym E., Almaty, KAZAKHSTAN
IN
       Adekenov, Sergazy M., Karaganda, KAZAKHSTAN
       International Phytochemistry Research Labs, Ltd., Virginia Beach, VA,
PA
       United States (U.S. corporation)
DТ
       US 6429203
                          B1
                               20020806
                               20000418 (9)
       US 2000-551016
AΤ
       Continuation of Ser. No. US 1998-30300, filed on 25 Feb 1998, now
RLI
       patented, Pat. No. US 6051565 Continuation-in-part of Ser. No. US
       1997-934228, filed on 19 Sep 1997 Continuation-in-part of Ser. No. US
       1997-934229, filed on 19 Sep 1997, now patented, Pat. No. US 5902809
       Continuation-in-part of Ser. No. US 1997-934471, filed on 19 Sep 1997
                           19970730 (60)
       US 1997-51681P
PRAI
DT
       Utility
       GRANTED
FS
      Primary Examiner: Solola, T. A.
EXNAM
       Matney, Jr., W. Jackson, Milbank, Tweed, Hadley & McCloy LLP
LREP
       Number of Claims: 9
CLMN
       Exemplary Claim: 1
ECL
       13 Drawing Figure(s); 20 Drawing Page(s)
DRWN
LN.CNT 1392
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
    ANSWER 10 OF 26 USPATFULL on STN
L18
       2001:121501 USPATFULL
AN
       Farnesyl-protein transferase inhibitors
TI
       Shaikenov, Tattym E., Almaty, Kazakhstan
IN
       Adekenov, Sergazy M., Karaganda, Kazakhstan
       International Phytochemistry Research Labs, Ltd., Virginia Beach, VA,
PA
       United States (U.S. corporation)
                          В1
                               20010731
PΤ
       US 6268394
                               19990726 (9)
AΙ
       US 1999-360832
       Division of Ser. No. US 1998-30300, filed on 25 Feb 1998, now patented,
RLI
       Pat. No. US 6051565 Continuation-in-part of Ser. No. US 1997-934228,
       filed on 19 Sep 1997, now abandoned Continuation-in-part of Ser. No. US
       1997-934229, filed on 19 Sep 1997, now patented, Pat. No. US 5902809
       Continuation-in-part of Ser. No. US 1997-934471, filed on 19 Sep 1997
       KZ 1997-970397
                           19970426
PRAI
                           19970703 (60)
       US 1997-51681P
DT
       Utility
FS
       GRANTED
       Primary Examiner: McKane, Joseph K.; Assistant Examiner: Solola, Taofiq
EXNAM
       Matney, Jr., W. JacksonMilbank, Tweed, Hadley & McCloy LLP
LREP
       Number of Claims: 2
CLMN
       Exemplary Claim: 1
ECL
       13 Drawing Figure(s); 20 Drawing Page(s)
DRWN
LN.CNT 1452
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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- L18 ANSWER 11 OF 26 USPATFULL on STN
- TI Farnesyl-protein transferase inhibitors
- L18 ANSWER 12 OF 26 USPATFULL on STN
- TI Inhibitors of protein isoprenyl transferases
- L18 ANSWER 13 OF 26 USPATFULL on STN
- TI Inhibitors of protein isoprenyl transferases
- L18 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
- TI Arglabin-DMA, a plant derived sesquiterpene, inhibits farnesyltransferase
- L18 ANSWER 15 OF 26 USPATFULL on STN
- TI Human RCE1
- L18 ANSWER 16 OF 26 USPATFULL on STN
- TI Yeast cells engineered to produce pheromone system protein surrogates, and uses therefor
- L18 ANSWER 17 OF 26 USPATFULL on STN
- TI Methods and compositions for the identification, characterization and inhibition of farnesyltransferase
- L18 ANSWER 18 OF 26 USPATFULL on STN
- TI Farnesyl-protein transferase inhibitors
- L18 ANSWER 19 OF 26 MEDLINE on STN DUPLICATE 2
- TI TAN-1813, a novel Ras-farnesyltransferase inhibitor produced by Phoma sp. taxonomy, fermentation, isolation and biological activities in vitro and in vivo.
- L18 ANSWER 20 OF 26 USPATFULL on STN
- TI Functional expression of mammalian adenylyl cyclase in yeast
- => d l18 17,19 bib
- L18 ANSWER 17 OF 26 USPATFULL on STN
- AN 2000:84258 USPATFULL
- TI Methods and compositions for the identification, characterization and inhibition of farnesyltransferase
- IN Brown, Michael S., Dallas, TX, United States

Goldstein, Joseph L., Dallas, TX, United States

Reiss, Yuval, Dallas, TX, United States

Marsters, Jim, Oakland, CA, United States

PA Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)

- PI US 6083917 20000704
- AI US 1992-935087 19920824 (7)
- RLI Continuation-in-part of Ser. No. US 822011
- DT Utility
- FS Granted
- EXNAM Primary Examiner: Davenport, Avis M.
- CLMN Number of Claims: 24
- ECL Exemplary Claim: 1
- DRWN 34 Drawing Figure(s); 29 Drawing Page(s)
- LN.CNT 3386
- CAS INDEXING IS AVAILABLE FOR THIS PATENT.
- L18 ANSWER 19 OF 26 MEDLINE on STN

- DN 20530182 PubMed ID: 11079798
- TI TAN-1813, a novel Ras-farnesyltransferase inhibitor produced by Phoma sp. taxonomy, fermentation, isolation and biological activities in vitro and in vivo.
- AU Ishii T; Hayashi K; Hida T; Yamamoto Y; Nozaki Y
- CS Pharmaceutical Discovery Research Division, Takeda Chemical Industries, Ltd., Tsukuba, Ibaraki, Japan.
- SO JOURNAL OF ANTIBIOTICS, (2000 Aug) 53 (8) 765-78.
  Journal code: 0151115. ISSN: 0021-8820.
- CY Japan
- DT Journal; Article; (JOURNAL ARTICLE)
- LA English
- FS Priority Journals
- EM 200012
- ED Entered STN: 20010322

Last Updated on STN: 20020924 Entered Medline: 20001215

- => d l18 21-26 ti
- L18 ANSWER 21 OF 26 USPATFULL on STN
- TI Methods for the identification of farnesyltransferase inhibitors
- L18 ANSWER 22 OF 26 USPATFULL on STN
- TI Yeast cells engineered to produce pheromone system protein surrogates and uses therefor
- L18 ANSWER 23 OF 26 USPATFULL on STN
- TI Inhibitors of squalene synthase and protein farnesyltransferase
- L18 ANSWER 24 OF 26 USPATFULL on STN
- TI Yeast cells engineered to produce pheromone system protein surrogates, and uses therefor
- L18 ANSWER 25 OF 26 USPATFULL on STN
- TI Inhibitors of squalene synthetase and protein farnesyltransferase
- L18 ANSWER 26 OF 26 USPATFULL on STN
- TI Inhibitors of protein **farnesyltransferase** and squalene synthase
- => d l18 21,23,26 bib
- L18 ANSWER 21 OF 26 USPATFULL on STN
- AN 1999:121146 USPATFULL
- TI Methods for the identification of farnesyltransferase inhibitors
- IN Brown, Michael S., Dallas, TX, United States Goldstein, Joseph L., Dallas, TX, United States James, Guy L., Dallas, TX, United States
- PA Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)
- PI US 5962243 19991005
- AI US 1995-429964 19950427 (8)
- RLI Continuation-in-part of Ser. No. US 1993-21625, filed on 16 Feb 1993 which is a continuation-in-part of Ser. No. US 1992-822011, filed on 16 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1992-937893, filed on 22 Dec 1992 which is a continuation of Ser. No. WO 1991-US2650, filed on 18 Apr 1991 which is a continuation-in-part of Ser. No. US 1990-615715, filed on 20 Nov 1990, now patented, Pat. No. US 5141851 which is a continuation-in-part of Ser. No. US 1990-510706,

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filed on 18 Apr 1990, now abandoned
DT
       Utility
       Granted
FS
       Primary Examiner: Wax, Robert A.; Assistant Examiner: Slobodyansky,
EXNAM
       Elizabeth
       Arnold White & Durkee
LREP
       Number of Claims: 34
CLMN
       Exemplary Claim: 1
ECL
       55 Drawing Figure(s); 42 Drawing Page(s)
DRWN
LN.CNT 4835
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 23 OF 26 USPATFULL on STN
L18
AN
       1998:135256 USPATFULL
       Inhibitors of squalene synthase and protein farnesyltransferase
ΤI
       Arendsen, David L, Libertyville, IL, United States
TN
       Baker, William R., Bellevue, WA, United States
       Fakhoury, Stephen A, Mundelein, IL, United States
       Fung, Anthony K. L., Gurnee, IL, United States
       Garvey, David S., Dover, MA, United States
       McClellan, William J., Waukegan, IL, United States
       O'Connor, Stephen J., Wilmette, IL, United States
       Prasad, Rajnandan N., Vernon Hills, IL, United States
       Rockway, Todd W., Grayslake, IL, United States
       Rosenberg, Saul H., Grayslake, IL, United States
       Stein, Herman H., Highland Park, IL, United States
       Shen, Wang, Skokie, IL, United States
       Stout, David M., Mettawa, IL, United States
       Sullivan, Gerard M., Round Lake Beach, IL, United States
       Augeri, David J., Kenosha, WI, United States
       Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)
PΑ
PΤ
       US 5831115
                               19981103
                               19960411 (8)
ΑI
       US 1996-626859
       Continuation-in-part of Ser. No. US 1995-564524, filed on 29 Nov 1995,
RLT
       now abandoned which is a continuation-in-part of Ser. No. US
       1995-426553, filed on 21 Apr 1995, now abandoned And a
       continuation-in-part of Ser. No. US 1995-428357, filed on 21 Apr 1995,
       now abandoned
DT
       Utility
       Granted
FS
      Primary Examiner: Killos, Paul J.
EXNAM
       Steele, Gregory W., Crowley, Steven R.
LREP
CLMN
       Number of Claims: 35
       Exemplary Claim: 1
ECL
DRWN ·
       No Drawings
LN.CNT 4001
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L18
    ANSWER 26 OF 26 USPATFULL on STN
       97:43025 USPATFULL
ΑN
       Inhibitors of protein farnesyltransferase and squalene
ΤI
       synthase
       Stein, Herman H., Highland Park, IL, United States
IN
       Baker, William R., Bellevue, WA, United States
       Fung, Anthony K. L., Gurnee, IL, United States
       Rosenberg, Saul H., Grayslake, IL, United States
       Rockway, Todd W., Grayslake, IL, United States
       Fakhoury, Stephen A., Mundelein, IL, United States
       Garvey, David S., Waltham, MA, United States
       Donner, B. Gregory, Mundelein, IL, United States
       McClellan, William J., Waukegan, IL, United States
       O'Connor, Stephen J., Wilmette, IL, United States
       Prasad, Rajnandan, Vernon Hills, IL, United States
       Shen, Wang, Skokie, IL, United States
       Sullivan, Gerard M., Round Lake Beach, IL, United States
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Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)
PA
ΡI
       US 5631401
                               19970520
                               19950124 (8)
ΑI
       US 1995-378334
       Continuation-in-part of Ser. No. US 1994-194366, filed on 9 Feb 1994,
RLI
       now abandoned
DT
       Utility
FS
       Granted
EXNAM Primary Examiner: Geist, Gary; Assistant Examiner: Frazier, Barbara S.
       Steele, Gregory W., Crowley, Steven R.
       Number of Claims: 14
CLMN
       Exemplary Claim: 1
ECL
       No Drawings
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LN.CNT 4493
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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L2
L3
             63 S L1 AND L2
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L4
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L5
L6
              6 S L3 AND L5
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T.8
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1.9
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L13
L14
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L16
L17
             30 S L14 AND L16
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L18
L19
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L22 ANSWER 1 OF 3 USPATFULL on STN
TI
       Transgenic plants with enhanced stress tolerance
Ļ22
    ANSWER 2 OF 3 USPATFULL on STN
       CaaX prenyl protease nucleic acids and polypeptides and methods of use
TΙ
       thereof
L22 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
     Transgenic plants with improved stress tolerance or delayed senescence
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=> d 122 1-3 bib
     ANSWER 1 OF 3 USPATFULL on STN
L22
       2003:290111 USPATFULL
AN
       Transgenic plants with enhanced stress tolerance
TI
       Kim, Soo Young, Kwangsan-Gu, KOREA, REPUBLIC OF
IN
       Choi, Hyung In, Mokpo-Shi, KOREA, REPUBLIC OF
       Kang, Joung-Youn, Buk-Gu, KOREA, REPUBLIC OF
       Im, Min-Young, Buk-Gu, KOREA, REPUBLIC OF
       US 2003204874
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PΙ
AΙ
       US 2002-128456
                           A1
                                20020424 (10)
DT
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       APPLICATION
FS
       KENYON & KENYON, 1500 K STREET, N.W., SUITE 700, WASHINGTON, DC, 20005
LREP
       Number of Claims: 5
CLMN
ECL
       Exemplary Claim: 1
DRWN
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LN.CNT 1163
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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L22
AN
       2003:290102 USPATFULL
       CaaX prenyl protease nucleic acids and polypeptides and methods of use
ΤI
       thereof
IN
       Wan, Jiangxin, Kingston, CANADA
       Huang, Yafan, Kingston, CANADA
       Melo, Delina Mary-Jane, Inverary, CANADA
       Kuzma, Monika Maria, Glenburnie, CANADA
       Gilley Sample, Angela Patricia, Inverary, CANADA
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PΙ
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       US 2002-210760
                                20020801 (10)
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       US 2001-309396P
                           20010801 (60)
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       US 2001-337084P
                           20011204 (60)
DT
       Utility
       APPLICATION
FS
       Ivor R. Elrifi, Ph.D., Mintz, Levin, Cohn, Ferris,, Glovsky and Popeo,
LREP
       P.C., One Financial Center, Boston, MA, 02111
CLMN
       Number of Claims: 45
       Exemplary Claim: 1
ECL
       14 Drawing Page(s)
DRWN
LN.CNT 6397
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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AN
     2002:927600 CAPLUS
DN
     138:22288
     Transgenic plants with improved stress tolerance or delayed senescence
TI
     expressing antisense farnesyl transferase nucleic acids
IN
     Huang, Yafan; Chalifoux, Maryse; Wang, Yang; Kuzma, Monika D.; Gilley,
     Angela P.
PA
     Performance Plants, Inc., Can.
SO
     PCT Int. Appl., 130 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 1
     PATENT NO.
                                            APPLICATION NO.
                      KIND DATE
                                                             DATE
                            20021205
                                            WO 2002-IB3033
                                                             20020531
PΙ
     WO 2002097097
                       A2
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             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
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LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
             CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     US 2003167535
                     A1 20030904
                                      · US 2002-160764 20020531
PRAI US 2001-294766P
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                            20011022
    US 2001-348909P
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=> d his
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    FILE 'MEDLINE, AGRICOLA, CABA, CAPLUS, BIOSIS, BIOTECHNO, USPATFULL'
     ENTERED AT 13:20:45 ON 17 DEC 2003
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L1
            549 S (PEI, Z? OR PEI Z?)/AU
L2
             63 S L1 AND L2
L3
           5394 S L1 OR L2
L4
           3582 S FARNESYLTRANSFERASE
L5
              6 S L3 AND L5
L6
              2 DUPLICATE REMOVE L6 (4 DUPLICATES REMOVED)
L7
           5331 S L4 NOT L3
L8
              7 S L8 AND L5
L9
              3 DUPLICATE REMOVE L9 (4 DUPLICATES REMOVED)
L10
           186 S L5 AND PLANT
L11
            175 S L11 NOT L4
L12
           109 S L12 AND (INHIBITOR OR INHIBITION)
L13
            70 S L13 AND (TRANSFORMED OR TRANSGENIC)
L14
             66 DUPLICATE REMOVE L14 (4 DUPLICATES REMOVED)
L15
           1630 S FARNESYLTRANSFERASE(W) INHIBITOR OR FARNESYLTRANSFERASE(S) INHI
L16
             30 S L14 AND L16
L17
             26 DUPLICATE REMOVE L17 (4 DUPLICATES REMOVED)
L18
             0 S L18 AND GUARD(S)CELL
L19
             15 S L5 AND GUARD (W) CELL
L20
             3 S L20 NOT L4
L21
             3 DUPLICATE REMOVE L21 (0 DUPLICATES REMOVED)
L22
=> logoff
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:Y
COST IN U.S. DOLLARS
                                                 SINCE FILE
                                                                 TOTAL
```

ENTRY SESSION 59.60

59.18 FULL ESTIMATED COST

STN INTERNATIONAL LOGOFF AT 13:32:04 ON 17 DEC 2003